

1. INTRODUCTION

1.1 General

DOS6800 System Software is a single user conversational operating system. It provides all the facilities needed for the creation, updating, compiling, assembling and linking of application programs. However, testing of application programs must be done under TOSS System Software (which is not discussed in this Manual). TOSS System Software comprises the following components:

- TOSS Monitor
- CREDIT Configurator
- CREDIT Interpreter
- CREDIT Debugging Program
- TOSS Utility Programs
- Additional Functions

The TOSS Monitor must be generated for specific PTS6000 configurations. This is done via the DOS6800 utility SYSGEN.

DOS6800 System Software comprises the following components:

- DOS6800 Monitor
- Processors
- Utilities
- Catalogued Procedures

These components are discussed briefly in the following sections.

1.2 DOS6800 Monitor

The main functions of the Monitor are:

- To communicate with the user (normally via the console typewriter).
- To maintain a library of files for each user.
These files may be of various types and are held on disk.
- To provide temporary file space on disk for the current user of the System. This file space is used for temporary work files.
- To load and run the various processors and utilities.

The Monitor runs in a series of "sessions". A session is opened when the user signs-on by keying-in his identification in reply to the prompt USERID: typed on the console typewriter. This prompt is output after the Monitor has been loaded or after the previous session has been closed.

Having opened a session the user communicates with the Monitor by keying-in "control commands". With these commands the user may create temporary files, manipulate library files, call processors and utilities etc.

At the end of a session the user must sign-off by keying-in BYE. The Monitor will then scratch all temporary files and type out the prompt USERID: so that the next session may be started.

The user identification (userid) is a unique alphanumeric code specified by the user. This code is defined in appendix A; it may be upto eight characters long. The userid is used by the Monitor to identify the library maintained for each user. A user may of course have more than one userid (and therefore more than one library).

The memory resident part of the Monitor is called the Supervisor. The non-resident part is called the Control Command Interpreter (CCI). The CCI is responsible for interpreting the control commands keyed-in by the user. When the user calls a processor or utility into execution the Monitor loads it into memory, overwriting the CCI.

During execution the user cannot communicate with the Monitor through control commands. However, the user can input certain messages directly to the Supervisor. These are called control messages. Control messages allow the user to request a few Monitor services which are sometimes needed during program execution e.g. abort the program, retry an I/O operation.

1.3 DOS6800 Processors

The processors are as follows:

- Assembler (language processor)
- CREDIT Translator (language processor)
- CREDIT Linker (pre linkage edit processor)
- Line Editor (interactive text editor)
- Linkage Editor (load module builder)

The processors are held in the system library and are called into execution by the control commands ASM, TRA, TLK, LED and LKE.

The Linkage Editor and Line Editor are described in this Manual. The Assembler is described in the Assembler PRM (M06 Part 3). The CREDIT Translator and CREDIT Linker are described in the CREDIT PRM (M04).

1.4 DOS6800 Utilities

The following utilities are available:

- CPLGEN — writes IPL segments onto a cassette.
- DMPGEF — generates a memory dump program (DUMPFD) on a flexible disk.
- DMPGEN — generates a memory dump program (DUMPER) on a cassette.
- DUMPA — lists cassette or magnetic tape blocks or flexible disk sectors, on the line printer.
- JESPER — copies programs from disk load modules to a program loading cassette.
- OBX — produces a cross-reference listing of the references between a specified number of object modules
- PM6800 — formats a disk pack.
- PRDUMP — lists a cassette produced by DUMPER or a flexible disk created by DUMPFD.
- RUM — restores a userid or complete disk from magnetic tape.
- SUM — saves a userid or complete disk on magnetic tape.
- SYSGEN — generates control commands which are used to create a TOSS Monitor.
- XRF — produces a cross-reference listing of a source module.

The utilities are held in the system library; for information on running the utilities, refer to section 9.

1.5 DOS6800 Catalogued Procedures

The following catalogued procedure is supplied with DOS6800 System Software:

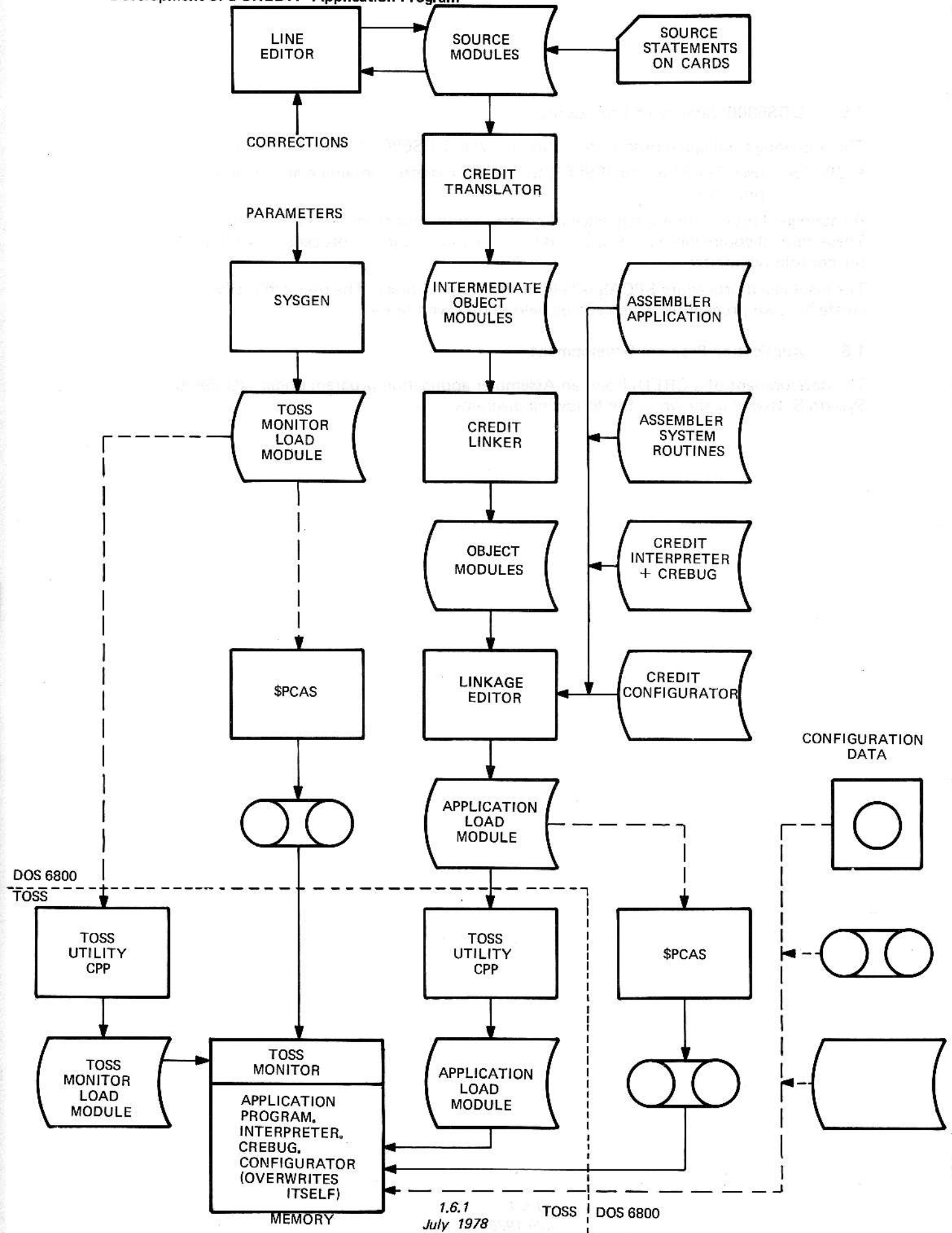
- **\$PCAS** — uses CPLGEN and JESPER to create a cassette containing an IPL and a program.

A catalogued procedure is a sequence of control commands stored as a file on disk. These control commands can be invoked by simply keying-in the procedure name on the console typewriter.

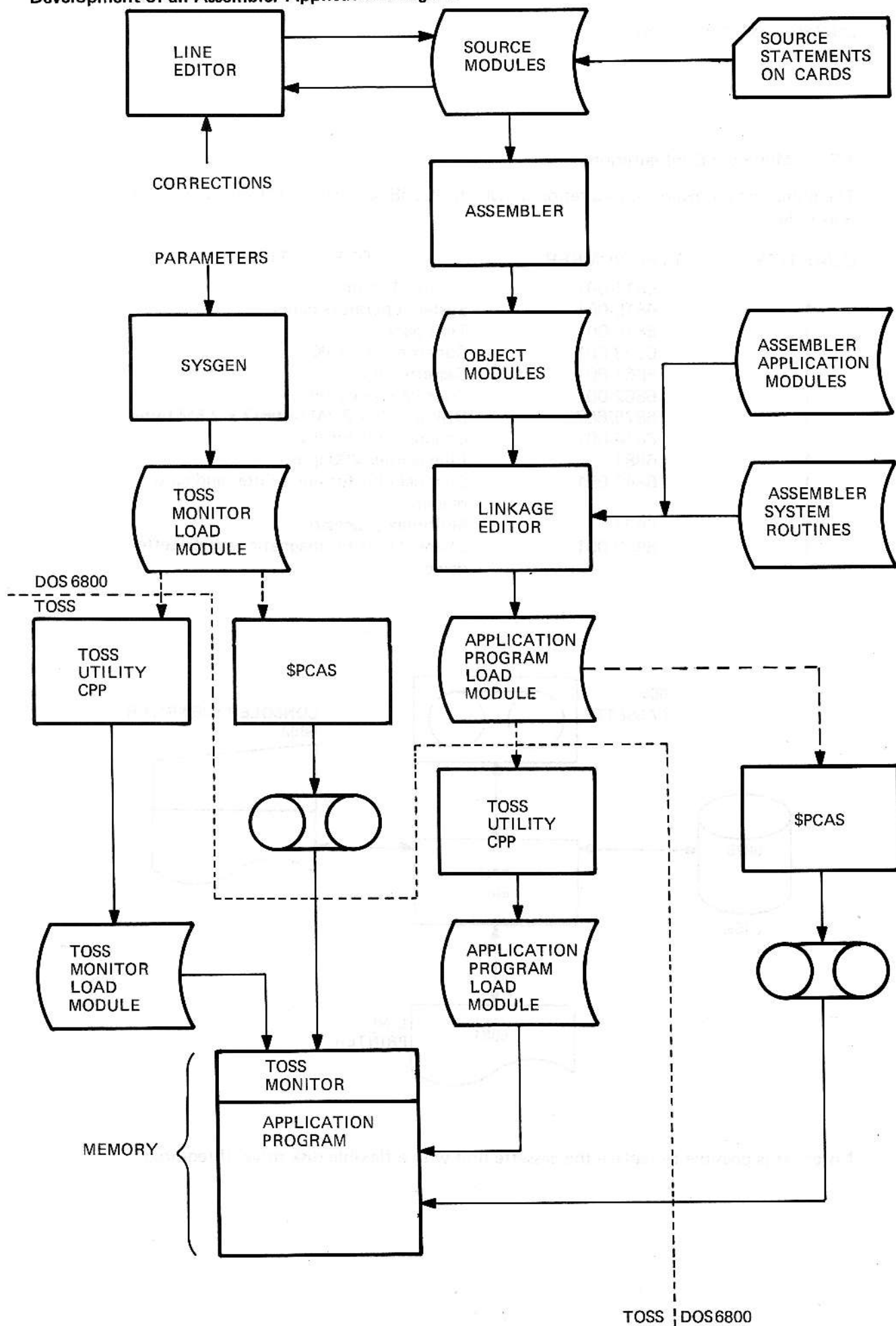
The catalogued procedure \$PCAS is held in the system library. The user can easily create his own procedures which can be held in his own library.

1.6 Application Program Development

The development of a CREDIT and an Assembler application program under DOS6800 System Software is shown in the following diagrams.



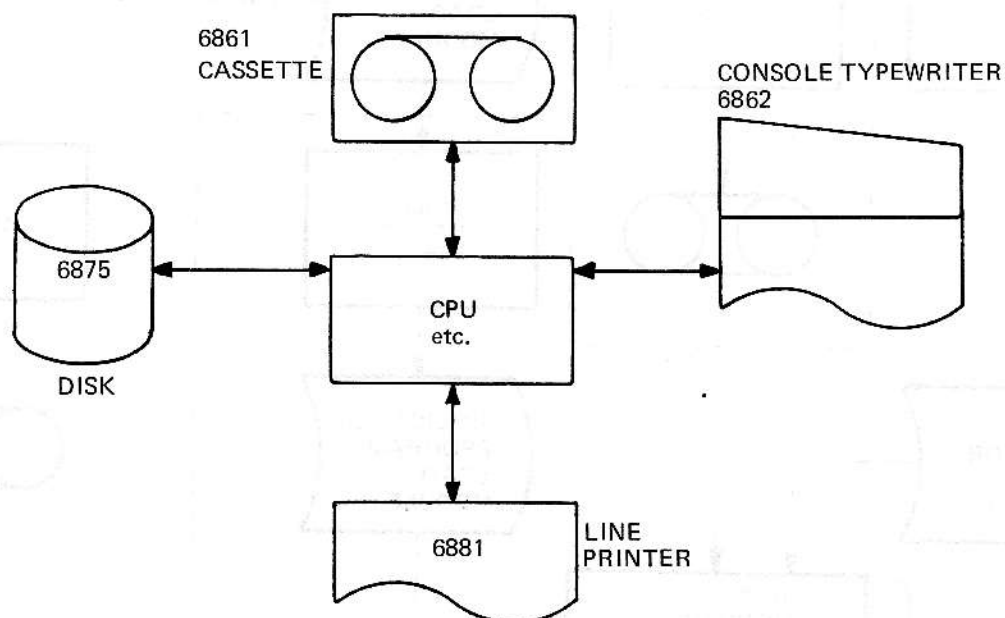
Development of an Assembler Application Program



1.7 Minimum Configuration

The minimum hardware configuration on which DOS6800 System Software can be run is as follows:

QUANTITY	TYPE NUMBER	DESCRIPTION
1	6811-001	Terminal computer
1	6815-001	System operators panel
1	6816-001	Text panel
1	6823-001	Core memory 16K
1	6861-001	Cassette unit
1	6862-001	Console typewriter
1	6875/6876	Disk unit 2 x 2.7M bytes/2 x 2.5M bytes
1	6844-001	Channel unit for disk
1	6881	Line printer 200 lpm
1	6847-001	Channel unit for line printer and card reader
1	6827	Multiplex processor
1	6833-001	Channel unit for magnetic tape cassette device

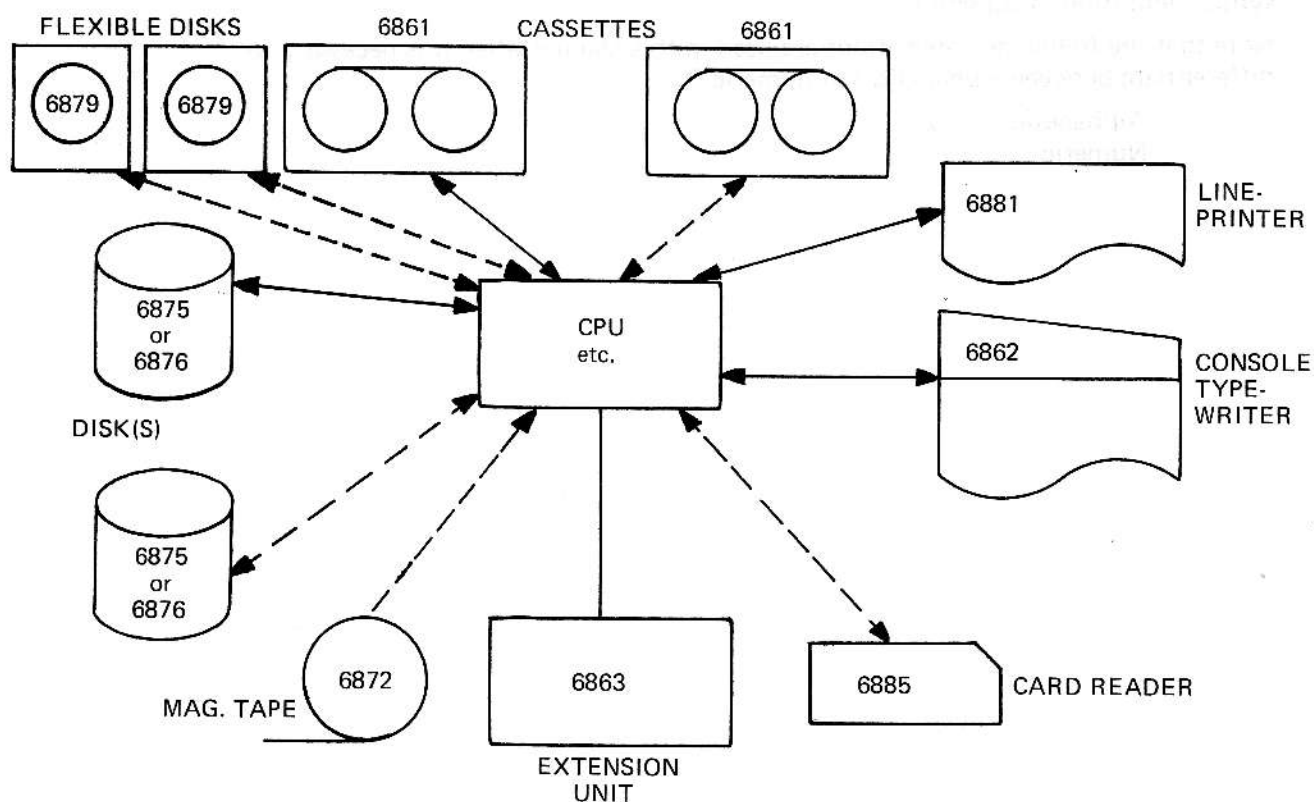


Note: It is possible to replace the cassette unit with a flexible disk drive, if required.

1.8 Maximum Configuration

The maximum hardware configuration which can be controlled by DOS6800 System Software includes the items listed in the previous section plus the following items:

QUANTITY	TYPE NUMBER	DESCRIPTION
1	6861-001	Cassette unit
1	6823-001	Core memory 16K
1	6815-002	Computer full panel
2	6875	Disk unit 2 x 2.7M bytes
1	6872-001	Magnetic tape unit
1	6842-001	Channel unit for magnetic tape
1	6885	Card reader
1	6863	Extension Unit
2	6876	Disk unit 2 x 2.5M bytes
2	6879	Flexible disk



Note: The 6875 and 6876 disk units may be used in a mixed configuration, to a maximum of two drives in total.

1.9 Notation Conventions

The following symbols (Backus Normal Form) are used to define the syntax of control commands, control messages, Line Editor commands and SYSGEN responses:

- `::=` is defined as
- `□` space
- `[]` the syntactic item between the square brackets may be omitted.
- `{ }` select one of the items between the braces.
- `a|b` select either a or b. This has the same meaning as braces. It is used with long item strings.
- `||` concatenate the syntactic items at either side of this symbol.
- `....` elipsis indicates that the last syntactic item may be repeated.

These symbols are used throughout the Manual. They are also used in the parameter syntax definition in appendix A.

Note that the following conventions are used in this Manual when it is necessary to differentiate between alphabetic and numeric 0.

- Alphabetic — \emptyset
- Numeric — 0

1.10 Special Key-in

The user communicates with the Monitor and certain processors or utilities via the console typewriter. The following keys have a special meaning:

Normal PTS6862 Symbol	Hexadecimal code	Meaning
^	/5E	Erase current line. The line of information being keyed-in is discarded and the user may re-key the complete line.
— (upper case zero)	/5F	Erase last character. The last character keyed-in is discarded. "N" consecutive erase characters may be keyed-in to erase the last "N" characters.
Ⓛⓕ	/0A	Line feed. The paper is fed one line.
ⒸⓇ	/0D	Carriage return The next character will be typed in column one.

Notes:

- The above symbols may be different if a non standard keyboard is used on the PTS6862 console typewriter. However, the hexadecimal codes for those symbols will be the ones shown above.
- Each line of input keyed-in by the user on the console typewriter must be followed by a ⒸⓇ. The ⒸⓇ may optionally be preceded by a Ⓛⓕ. This ensures that any error messages typed out by DOS6800 System Software appear on a separate line. If the Ⓛⓕ is not keyed-in error messages may be unreadable, because they will be typed over the input line.